

**Marked-Up Version of Specification & Claim Amendment****IN THE SPECIFICATION**

On page 9, amend the first paragraph (i.e., lines 3-20) as follows.

--Figure 2 shows the structure or configuration of a data access network system 100 that implements a content consistency scheme in accordance with one embodiment of the present invention. As will be described in more detail below, the content consistency scheme in accordance with one embodiment of the present invention employs a subscription manager (i.e., the subscription manager 40) in a data service system that contains content servers (i.e., the master data service system 30). The content servers in the master data service system [40] 30 stores at least one content file, which can be accessed by remote proxy data service systems such as the proxy data service system 32. The subscription manager 40 in the master data service system 30 specifies all of the proxy servers (e.g., the proxy data service system 32) that consistently cache the content file and are subscribed to the cached content file. In addition, the content consistency scheme also employs a consistency manager (i.e., the consistency manager 41) to enforce the content consistency scheme. When the content of the content file is updated, deleted, or otherwise changed in the content servers of the master data service system 30, the consistency manager 41 notifies all of the proxy data service systems that cache and are subscribed to the content file to discard the cached content file.--

**IN THE CLAIMS**

Amend the following claim.

1. (Amended) In a data access network system that includes a content server coupled to a plurality of proxy servers via an interconnect network, a system of maintaining content consistency between the content and proxy servers, comprising:

a subscription manager in the content server that specifies all of the proxy servers that are subscribed to a content file stored in the content server, wherein the subscription manager is not a cache manager and does not contain a cache directory;

a consistency manager that notifies all of the subscribed proxy servers that cache the content file to discard the cached content file from those proxy servers when the content file is updated in the content server.

8. (Amended) In a data access network system that includes a content server coupled to a plurality of proxy servers via an interconnect network, a method of maintaining content consistency between the content server and the proxy servers, comprising the steps of:

maintaining a subscription list in a subscription manager for a content file in the content server that specifies all of the proxy servers that are subscribed to the content file, wherein the subscription manager is not a cache manager and does not contain a cache directory;

notifying, based on the subscription list, all of the subscribed proxy servers that cache the content file to discard the cached content file from those proxy servers when the content file is updated in the content server.

### **REMARKS**

Applicants respectfully request reconsideration of the present application, as amended.

Claims 1-15 are pending in the present application.

The specification is objected to because of informality.

Claims 1-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,256,747 of Inohara et al. ("*Inohara*") in view of U.S. Patent No. 5,787,470 of DeSimone et al. ("*DeSimone*").

The specification has been amended on page 9, line 10 to correct a typographical error. No new matter was introduced. It is submitted that the Examiner's objection has been overcome.

Claims 1 and 8 have been amended. Support for amended claims 1 and 8 is found in the application as originally filed. It is submitted that amended claims 1 and 8 do not add new matter.

It is submitted that *Inohara* and *DeSimone* do not render claims 1-15 unpatentable under 35 U.S.C. §103(a).

It is submitted that both *Inohara* and *DeSimone* fail to teach or suggest a subscription manager in a content server that specifies all proxy servers that are subscribed to a content file stored in the content server. On the contrary, the cache management section 101 in *Inohara* is not a subscription manager that specifies all proxy servers that are subscribed to a content file stored (Emphasis Added). Instead, the function of the cache management section 101 in *Inohara* is to perform the function of (1) writing and reading (128 and 129) for the cache table 107, (2) the writing and reading (136 and 137) for the cache directory 108, and (3) the writing and reading (138 and 139) for the server status table 109 (see *Inohara* Figure 1 and col. 6, lines 37-45). The cache

directory 108 in *Inohara* is a table which only holds information of which of the servers possesses the cache of which information (see *Inohara* col. 7, lines 24-30). The cache directory 108 in *Inohara* does not arrange or contain information that specifies all the proxy servers that are subscribed to a content file stored in a content server, as claimed in the amended claim 1 or 8.

As for *DeSimone*, neither the Examiner states in his office action, nor the document itself suggests (see *DeSimone* Figures 1-6) that *DeSimone* teaches or suggests such a subscription manager. *DeSimone* only discloses a mechanism of communicating between a requesting cache and a responding cache (see *DeSimone*, Figures 1-6 and the abstract). Nowhere does *DeSimone* describes a subscription manager that specifies all proxy servers that are subscribed to a content file.

In contrast, amended claim 1 states in part that

a subscription manager in the content server  
that specifies all of the proxy servers that are  
subscribed to a content file stored in the content  
server, wherein the subscription manager is not a  
cache manager and does not contain a cache directory.

(Amended claim 1)(Emphasis added). Amended claim 8 includes similar limitations.

Moreover, it is submitted that both *Inohara* and *DeSimone* fail to teach or suggest a consistency manager that notifies all of the subscribed proxy servers that cache the content file to discard the cached content file from those proxy servers when the content file is updated in the content server. On the contrary, the Examiner admits that *Inohara* does not teach or suggest such a consistency manager (see 10/10/01 Office Action, page 3). As for *DeSimone*, it

only discloses a mechanism of communicating between a requesting cache and a responding cache (see *DeSimone*, Figures 1-6 and the abstract). The mechanism in *DeSimone* is a repeated operation that is not triggered by anything (see *DeSimone*, Figures 1-6 and the abstract). The mechanism involves a cache (e.g., 401) sending to a neighboring cache (e.g., 402) a message about a set of URLs. When the neighboring cache 402 receives the message, it updates the state information it has accumulated on cache 401. Cache 402 then sends to cache 401 a message that contains information about a set of modified URLs that is newer than what cache 401 has. When cache 401 receives the message, it updates the state information it has accumulated on cache 402. The operation is then repeated at caches 401 and 402. (see *DeSimone*, Figure 4 and col. 5, lines 49-62). This means that the operation in *DeSimone* is a repeated operation between the caches 401-402 and is not triggered by the happening of an event (e.g., when a content file is updated). In addition, this means that cache 402 (or 401), when receiving the message containing information about a set of URLs (or modified URLs), only updates the state information in cache 402 (or 401) although the state information is regarding cache 401 (or 402). Nowhere does *DeSimone* describe a consistency manager that notifies all of the subscribed proxy servers that cache the content file to discard the cached content file from those proxy servers when the content file is updated in the content server (Emphasis added).

In contrast, amended claim 1 states in part that

a consistency manager that notifies all of the subscribed proxy servers that cache the content file to discard the cached content file from those proxy servers when the content file is updated in the content server.

(Amended claim 1)(Emphasis added). Amended claim 8 includes similar limitations.

Given that claims 2-7 and 9-15 depend from amended claims 1 and 8, respectively, it is likewise submitted that claims 2-7 and 9-15 are also patentable in view of Inohara and DeSimone.

In view of the amendments and arguments set forth herein, it is respectfully submitted that the applicable rejections and objections have been overcome. Accordingly, it is respectfully submitted that claims 1-15, as amended, should be found to be in the condition for allowance.

Respectfully submitted,

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